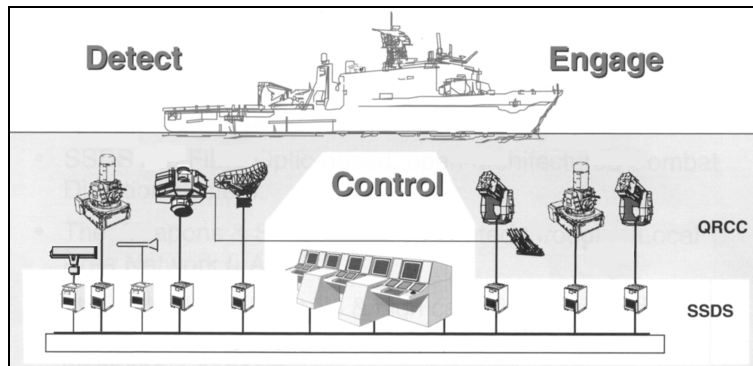


SHIP SELF DEFENSE SYSTEM (SSDS)



The Ship Self Defense System (SSDS) is designed to expedite the detect-through-engage process on amphibious ships and aircraft carriers against anti-ship cruise missiles (ASCMs). SSDS, consisting of software and commercial off-the-shelf (COTS) hardware, integrates sensor systems with engagement systems. Although SSDS will not improve capability of individual sensors, it enhances target tracking by integrating the inputs from several different sensors to form a composite track. Similarly, SSDS will not improve capability of individual weapons, but should expedite the assignment of weapons for threat engagement and provide a recommend engage display for operators, or if in automatic mode, initiate weapons firing, ECM transmission, chaff or decoy deployment, or some combination of these.

SSDS Mark 1 integrates previously stand-alone sensor and engagement systems for LSD 41-class ships, and SSDS Mark 2 is the combat direction system for aircraft carriers and other amphibious warfare ships.

BACKGROUND INFORMATION

OPEVAL of SSDS Mark 1 was conducted during June 1997, in accordance with a DOT&E-approved plan and TEMP, to support the B-LRIP decision for procurement of SSDS. Based on OPEVAL results, SSDS Mark 1 was determined to be operationally effective against subsonic, low altitude ASCMs and operationally suitable. Full production was authorized in March 1998, with total procurement of 58 units. However, only the LSD 41 class will receive SSDS Mark 1. The rest of the production buy will be an upgrade to the Mark 2 configuration, which will incorporate functionality of the Advanced Combat Direction System (ACDS) Block 1 and provide the interface for integration with the Cooperative Engagement Capability (CEC). FOT&E of Mark 1 was conducted on-board the remotely controlled Self Defense Test Ship (SDTS) during FY99 at the Naval Air Warfare Center, Weapons Division Sea Range at Point Mugu, CA, with a separate phase for operational suitability issues conducted in FY01.

TEST & EVALUATION ACTIVITY

Mark 1. The operational suitability portion of the FOT&E deferred from FY99 was conducted on USS *Oak Hill* inport in Norfolk, VA.

Mark 2. Activity consisted of further definition of the overall T&E program and early testing of the Mod 0 version intended for USS *Nimitz*.

TEST & EVALUATION ASSESSMENT:

Mark 1. As a result of the FY97 OPEVAL and FOT&E to date, Mark 1 is considered operationally effective against most current ASCM raids. It is operationally suitable, although improvement is still required in officer and tactics training.

Mark 2. The proposed T&E program includes a land-based test phase at Wallops Island, VA, and at-sea phases on two aircraft carriers (CVNs 68 and 76) and the LPD 17. Because it incorporates ACDS Block 1 functionality, SSDS Mark 2 will require assessment of performance in several warfare areas. These include Air, Surface, Strike, Amphibious, and others. Further, the Air Warfare area T&E requires an additional phase to assess ship self-defense against ASCMs. This requires Mark 2 integrating the sensor and engagement subsystems of the applicable ship class combat systems while engaging ASCMs or acceptable surrogates as targets. Moreover, since the systems on these ships are short-range air defense systems, safe and effective testing requires use of an SDTS capable of being remotely operated during operationally realistic ship air defense scenarios. Given that the LPD 17 is the first new ship class receiving SSDS Mark 2, OT&E of Mark 2 should be combined with the IOT&E for the LPD 17.

The existing TEMP is out of date and fails to address Mark 2 T&E. A draft TEMP has not been submitted for review. Navy operational requirements for Mark 2 are expected in the near future and a TEMP update is expected during FY02.

The Navy warfare sponsor for LPD 17 is resisting funding realistic operational testing of the LPD 17 combat system on a self-defense test ship. Cited among reasons for such resistance are the inordinate cost of installing SSDS Mark 2 and the associated sensors and RAM on an SDTS. However, without such testing, the IOT&E for LPD 17 will be inadequate.